

What is claimed is:

1. A thermal focusing device comprising:
 - a plurality of plates, wherein the plates are bonded together and at least one channel with an entrance and exit is formed within; and
 - a temperature reduction module in thermal contact with at least one plate.
2. A thermal focusing device according to claim 1, wherein the plurality of plates includes:
 - a first plate having a first surface with a first groove etched therein; and
 - a second plate having a second surface, and wherein the first and second surfaces are bonded together and the first groove forms the channel.
3. A thermal focusing device according to claim 2, wherein the second surface has a second groove etched therein and the first and second grooves face each other forming the channel when the first and second surfaces are bonded together.
4. A thermal focusing device according to claim 3, wherein the first surface has a third groove etched therein and the second surface has fourth groove etched therein and wherein the third groove faces the fourth groove and forms a second channel when the surfaces are bonded together.
5. A thermal focusing device according to claim 1, wherein the plurality of plates includes:
 - a first plate having a first surface with a first groove etched therein;
 - a second plate having a second and a third surface, and wherein the second surface is bonded to the first surface and the first groove forms a first channel, and wherein the third surface has a second groove etched therein; and,

a third plate having a fourth surface that is bonded to the third surface and wherein the second groove forms a second channel.

6. A thermal focusing device according to claim 1, wherein one or more of the channels is coated with an inert substance.

7. A thermal focusing device according to claim 1, wherein one of said channels contains a stationary phase substance.

8. A thermal focusing device according to claim 1, wherein one of said channels is coated with an inert substance and contains one of a liquid stationary phase substance and a solid stationary phase substance.

9. A thermal focusing device according to claim 1, further comprising: an electro-thermal device in thermal contact with at least one of said plates.

10. The gas phase focusing device according to claim 1, wherein the temperature reduction module includes an enclosed channel for conveying a cryogen in at least one of the plates.

11. The gas phase focusing device according to claim 1, wherein the temperature reduction module includes an enclosed channel for conveying a coolant in at least one of the plates.

12. The gas phase focusing device according to claim 10 further comprising a heating module in thermal contact with at least one plate.

13. The gas phase focusing device according to claim 12, wherein the heating module is one of a heating element.

14. The gas phase focusing device according to claim 12, wherein the heating module comprises electrically conductive material integral with at least one of the plates, and wherein electric current is applied through the plate.

15. The gas phase focusing device according to claim 12, wherein the temperature reduction module and the heating module is a vortex tube wherein the temperature reduction is accomplished by the cold airstream of the vortex and the heating is accomplished by the hot airstream of the vortex.

16. A thermal focusing device comprising:
a middle plate with a first and second surface and with material removed from the middle plate to form a continuous pathway with a beginning and end;
two substantially solid endplates bonded to the middle plate, wherein one endplate is bonded to the first surface and the other endplate is bonded to the second surface and wherein a channel formed within from the pathway; and
a temperature reduction means in thermal contact with at least one plate.

17. The thermal focusing device according to claim 16 wherein the beginning of the pathway is in the center of the middle plate and the end of the pathway is at an outer edge, and wherein one endplate has a aperture in the middle aligned with the beginning of the pathway.

18. A gas chromatography focusing device comprising:
a first plate having a first surface;
a second plate having a second surface that is bonded to the first surface, wherein at least one of the first surface and the second surface has a first groove formed therein so that the bonded first and second plates form a corresponding first channel;

a third plate having a third surface that is bonded to a fourth surface of the second plate, wherein at least one of the third surface and the fourth surface has a second groove formed therein so that the second and third plates bonded at the third and fourth surfaces form a corresponding second channel;

a temperature modulator, wherein said temperature modulator is capable of cooling at least one of said bonded plates.; and,

a heating means in thermal contact with at least one plate.

19. A gas chromatography focusing device according to claim 1, wherein the second plate has at least one aperture therethrough arranged to permit communication between the first and second channels forming one continuous channel.

20. A gas chromatography focusing device according to claim 19 wherein the channel is coated with an inert substance.